



Chemical and Biological Defense

CBIAC
Information Analysis Center

Newsletter

Summer 2003

Volume 4 Number 3

A U.S. Department of Defense Information Analysis Center sponsored by the Defense Information Systems Agency, **Defense Technical Information Center**

THE IAB: Agencies Working Together To Prepare the First Responder Community for a WMD Incident



"Dedicated to those brave Americans who stand ever vigilant to protect this country and its people from those who would attempt to deny us our freedom. May your strength give us strength."

The InterAgency Board

Origins

Sanctioned by the Attorney General of the United States, the **InterAgency Board for Equipment Standardization and InterOperability (IAB)** was founded by the Department of Defense's Consequence Management Program Integration Office and the Department of Justice's Federal Bureau of Investigation Weapons of Mass Destruction Countermeasures on October 13, 1998. With the participation of various local, state, and federal government organizations, the IAB formulated its mission statement, organized the board into four SubGroups and two committees, developed a Charter, and identified the IAB Process and Strategic Objectives. The IAB is a user-working group supported by voluntary participation from various local, state, federal government, and private organizations.

Mission

The IAB Working Group is designed to establish and coordinate local, state, and federal standardization, interoperability, and responder safety to prepare for, respond to, mitigate, and recover from any incident by identifying requirements for Chemical, Biological, Radiological, Nuclear or Explosives (CBRNE) incident response equipment.

Scope

The IAB supports the local, state, and federal responders' efforts in Homeland Security by:


- Serving in an advisory capacity to all federal agencies,
- Facilitating integration among local, state, and federal response communities to promote proper selection and use of the best available equipment and procedures to optimize safety, interoperability, and efficiency,

- Developing, maintaining, and updating a Standardized Equipment List (SEL), that provides the responder a reference to the type of equipment required to prepare for, respond to, mitigate, and recover from a CBRNE incident,
- Advocating for, assisting in, and promoting the development and implementation of performance criteria, standards and test protocols for SEL-listed CBRNE incident response equipment,
- Encouraging the coordination of local and state response communities with established military and federal acquisition programs for procurement of SEL-listed CBRNE incident response equipment,
- Sharing knowledge, expertise, and technology regarding the detection, identification, warning, protection, decontamination, response management, and medical management of CBRNE incidents among local, state, and federal response communities,
- Providing a structured forum for the exchange of ideas among operational, technical, and support agencies for crisis and consequence management to promote interoperability among local, state, and federal response communities,
- Identifying and prioritizing CBRNE incident response equipment requirements,
- Encouraging manufacturers, governmental, military, and private agencies to sponsor priority research and development projects to satisfy local, state, and federal CBRNE incident response equipment requirements,
- Providing assistance and/or guidance to agencies, associations, and manufacturers, requiring operational testing of new and emerging equipment and technologies, and
- Preparing and publishing an annual report to articulate the activities and accomplishments of the IAB.

IAB Chair

The IAB Chair is selected from the ranks of the local and state membership. Confirmation occurs by a majority vote of the general membership present at the board meeting.

- The Chair administers, organizes, and facilitates the actions of the IAB.
- The Chair provides recommendations to the Federal Coordinating Committee and direction to the SubGroup chairs.



The **Chemical and Biological Defense Information Analysis Center (CBIAC)** is a Department of Defense (DoD)-sponsored Information Analysis Center (IAC) operated by Battelle Memorial Institute and administered by the Defense Information Systems Agency (DISA), Defense Technical Information Center (DTIC) under the DoD IAC Program Office (Contract No. SPO700-00-D-3180).

The CBIAC Contracting Officer's Technical Representative (COTR) may be contacted at the following address:

CDR USA SBCCOM
Edgewood Chemical Biological Center
ATTN: AMSSB-RRT (CBIAC COTR)
5183 Blackhawk Road
Aberdeen Proving Ground, MD 21010-5424

U.S. Government agencies and private industry under contract to the U.S. Government can contact the CBIAC for information products and services. CBIAC services also extend to all state and local governments and the first responder community, to include local emergency planners, firefighters, medics and law enforcement personnel.



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The *CBIAC Newsletter*, a quarterly publication of the CBIAC, is a public release, unlimited distribution forum for chemical and biological defense information. It is distributed in hardcopy format and posted in Portable Document Format (PDF) on the CBIAC Homepage.

The CBIAC welcomes unsolicited articles on topics that fall within its mission scope. All articles submitted for publication consideration must be cleared for public release prior to submission. The CBIAC reserves the right to reject or edit submissions. For each issue, articles must be received by the following dates: Winter (First Quarter) - November 1st; Spring (Second Quarter) - February 1st; Summer (Third Quarter) - May 1st; Fall (Fourth Quarter) - August 1st.

All paid advertisements and articles are subject to the review and approval of the CBIAC COTR prior to publication. The appearance of an advertisement or article in the *CBIAC Newsletter* does not constitute endorsement by the DoD or the CBIAC.

The CBIAC is located in building E3330, Room 150, Aberdeen Proving Ground-Edgewood Area, Maryland 21010. For further information or assistance, visit or contact the CBIAC.

CBIAC

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<http://www.cbic.apgea.army.mil/>

The Integrated Virus Detection System Utilizes Breakthrough Technology

The scenario is not too far removed from our nightly news: a mysterious virus moves across the world, turning up in cities and towns with seemingly no connection. Slowly, a pattern emerges, linking those remote cases to a common thread—a convention, maybe a hotel in Asia. Scientists and health professionals are at a loss to identify the virus, which doesn't respond to the usual treatments. How do you begin to identify it? Ideally, a fast-acting, efficient, portable and easy-to-use detection device could be deployed to these locations to confirm the presence of the virus and outline its characteristics.

The **Integrated Virus Detection System (IVDS)** does all those things. A patented and licensed technology from the Edgewood Chemical Biological Center (ECBC) at Aberdeen Proving Ground, MD, the IVDS represents a breakthrough technology at the early stages of its life cycle.

Dr. Charles Wick, leader of the chemical and biological point detection team at the Edgewood Chemical Biological Center (ECBC) has fostered the IVDS technology through to the 6.1 stage of U.S. Army technology development, picking up the Department of the Army Research and Development Award for Technical Excellence and a Federal Laboratory Consortium Technology Transfer Award in 2002 for his efforts.

The challenge in virus detection—especially in military applications—is that viruses are an order of magnitude smaller than bacteria, measuring anywhere between 10 and 300 nanometers each. Given that a nanometer is one billionth of a meter, these particles are quite small and difficult to detect. The IVDS, developed by Dr. Wick and his team, takes a unique approach to this challenge.

According to Dr. Wick, no other technology exists that can screen for unknown viruses without reliance on chemistry. The process by which the IVDS sorts and counts viruses allows the user to narrow down the possible identity of any unknown viral sample.

While many detectors depend on wet chemistry methods like reagents to trigger responses associated with certain substances, the IVDS detects viruses by counting viral particles in a given sample and sorting them by size. Because viruses have their own physical size range in the physical world, the system can tell a virus from pollen or dust.

Viruses, which are bigger than some proteins but smaller than nuclei, also have unique physical properties—characteristics that are separate and special to the world of viruses. The physical characteristics of size and composition are critical to the theory and practice behind the IVDS. The size of the virus

can be used to identify the family of viruses to which it belongs. Thus an unknown virus can be identified by comparing its size and characteristics to other known viruses.



Simple to use (15 minutes of training will allow a complete novice to operate the device) and immune to false alarms due to its non-chemical nature, the IVDS works in five stages. The first is the **collection stage**, in which the IVDS takes in its sample of airborne particles. The **separation stage** sorts particles by size using filters, isolating viruses from other airborne items. The **concentration stage** works to get the sample into the ideal operating range of the IVDS—if the sample is too small, it simply takes in more air until the concentration of the virus is high enough; if the sample is too big, it is diluted. The **counting stage** involves quantifying the amount of viral particles and sorting by size, enabling identification by its physical characteristics (in other words, the greatest concentration of a given particle size identifies the nature of the virus present in the sample). Finally, all the results are presented in a spreadsheet format during the **data reporting stage**.

For an unknown virus, the information derived from the IVDS will identify physical characteristics that will fall within the viral “window,” and more importantly which will fall between the characteristics of known virus particles. This gives researchers an idea of what sort of virus the unknown particle may represent. Even with unknown viruses, it's either there or it's not—there's no middle ground or false positives.

The IVDS may wind up playing a valuable role within a system of detectors and assays. Rather than replacing chemistry-based analysis, like Polymerase Chain Reactions (PCRs), the IVDS serves as a first line of detection to signal the presence of a viral agent. Once it is determined that something is present, a PCR can be used to do more detailed analysis. The IVDS takes that first step to indicate if a more advanced analysis is necessary. The yes-no nature of IVDS results eliminates false positives.

The components required for the IVDS are all off-the-shelf pieces. The filters used in the sorting process are reusable and easily replaceable if necessary, such as in the case of a dangerous or contagious sample. It is relatively portable, and can give results within 15 minutes, or as quickly as one minute. The National Institute of Standards and Technology

Continued pg. 11

Contract Awards • *by Mary Frances Tracy*

Analysis of Investigational Drugs in Biological Fluids – Method Development and Analysis of Pre-Clinical and Clinical Samples

Midwest Research Institute • Kansas City, MO

\$1,995,778. May 27, 2003

By U.S. Army Medical Research Acquisition Activity, Frederick, MD

Homeland Defense, Advanced Concept Technical Demonstrations, the Joint Forces Command Liaison Office, International Test and Evaluation Agreements and Reliance, Emerging Technology Test Requirements and Technology Transfer Analysis Support

SAIC • McLean, VA

\$6,459,397 (Part of a \$16,736,296 contract). May 30, 2003

By The Defense Contracting Command, Washington, DC

Development of a Vaccine Adjuvant to Enhance the Safety and Efficacy of a Vaccine Against Anthrax Toxin Proteins

Coley Pharmaceuticals Inc. • Wellesley, MA

\$6,000,000 (modification to a cost-reimbursement contract). May 30, 2003

By U.S. Army Robert Morris Acquisition Center, Research Triangle Park, NC

Joint Service Installation Pilot Program (JSIPP) Emergency Responder Equipment and Training

EAI Corp. • Abingdon, MD

\$827,160. May 30, 2003

By U.S. Army Robert Morris Acquisition Center, Aberdeen Proving Ground, MD

Human Monoclonal Antibodies for Neutralization of Botulinum Neurotoxin

Regents of the University of California • San Francisco, CA

\$949,051. June 1, 2003

By U.S. Army Medical Research Acquisition Activity, Frederick, MD

Develop Vaccine Adjuvant to Enhance Safety/Efficacy of Vaccine Against Anthrax Toxin Proteins

Coley Pharmaceuticals, Inc. • Wellesley, MA

\$6,000,000. June 2, 2003

By U.S. Army Robert Morris Acquisition Center, Research Triangle Park, NC

Develop, Configure and Deliver an Information Transfer Vehicle (ITV) That Would Be Deployed in the Event of a Chemical or Biological Terrorist Attack Within the United States

Engineered Support Systems, Inc. • St. Louis, MO

\$700,000 (initial development effort). June 12, 2003

By U.S. Army Space and Missile Defense Command for the U.S. Army Project Manager, Nuclear Biological Chemical Defense Systems (PM-NBCDS), Huntsville, AL

Environmental Sciences Support Services

STEM International, Inc. • Bel Air, MD

Cumulative contract for \$50,000,000. June 17, 2003

By U.S. Army Robert Morris Acquisition Center, Aberdeen Proving Ground, MD

Destruction of Chemical Weapons Stockpile At Blue Grass Army Depot, Kentucky

Bechtel Corp. • San Francisco, CA

Parsons Corp. • Pasadena, CA

\$2,000,000,000. June 17, 2003

By Department of Defense, Washington, DC

Provide for Materials and Manufacturing Science, Technology and Engineering to Advance Fixed and Deployed Airbase Infrastructure, Force Protection and Homeland Defense Capabilities.

Applied Research Associates Inc. • Albuquerque, NM

\$13,522,339. June 18, 2003

By Air Education and Training Command, 325th Contracting Squadron, Tyndall Air Force Base, FL

Research Committed to the Discovery and the Development of Antimicrobials for the Treatment of Serious Bacterial and Fungal Infections

Anacor Pharmaceuticals, Inc. • Palo Alto, CA

\$7,471,446 (modification to a cost-plus-fixed-fee contract). June 24, 2003

By U.S. Army Robert Morris Acquisition Center, Research Triangle Park, NC

Supply U.S. Troops with Chemical/Biological Decontamination Equipment, Water Purification Equipment and Various Base Camp Materiel

Engineered Support Systems, Inc. • St. Louis, MO

Alfred Karcher GmbH&Co. (Karcher) • Winnenden, Germany

\$2,500,000. July 2, 2003

By United States Marine Corps Albany Logistics Base, Albany, GA

Joint Warning and Reporting Network (JWARN) Block II System Development and Demonstration Phase

Northrop Grumman Information Technology, Inc. • Reston, VA

\$5,195,989. July 17, 2003

By Marine Corps Systems Command, Quantico, VA

Raman Chemical Imaging Biothreat Detection (RCIBD) Program

ChemImage Corp. • Pittsburgh, PA

\$4,047,484. July 22, 2003

By U.S. Army Medical Research Acquisition Activity, Frederick, MD

Water Terrorism Safety Assessment

International City/County Management Association (ICMA) • Washington, DC

Water Environment Federation (WEF) • Alexandria, VA

\$1,700,000 (grant). July 25, 2003

By Environmental Protection Agency, Washington, DC

Engineering & Technical Environmental Support Service

Booz Allen and Hamilton Inc. • McLean, VA

\$11,362,163. July 29, 2003

By Naval Sea Systems Command, Indian Head Division, Indian Head, MD

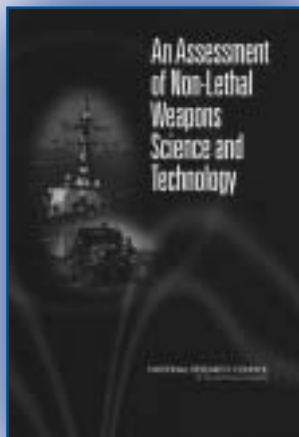
***Errata:** Our sincerest apologies to Trueteck Inc. in Riverhead, NY for inadvertently misspelling their company name in previous newsletter issues.*

New CBIAC Information Resources • By Richard M. Gilman

Books

Committee for an Assessment of Non-Lethal Weapons Science and Technology, National Research Council. **An Assessment of Non-Lethal Weapons Science and Technology**. Washington, D.C.: National Academy Press, 2003.

This study was initiated by the Joint Non-Lethal Weapons Directorate and the Office of Naval Research to assess current and potential areas for non-lethal weapons R & D. It provides an overview of the nature and role of non-lethal weapons (from a primarily naval perspective), the history of their use by the U.S. military during the last few decades, the current status of these weapons, and recommendations for future research and development. There are appendices on the role of non-lethal weapons in the architecture of force protection, non-lethal weapons technology, the health effects of non-lethal weapons, and acronyms and abbreviations.



The full text can be reviewed online at the website of the National Academy Press reading room located at <http://www.nap.edu>.

CB-190158 • ISBN 0-309-08288-9
National Academy Press
Box 285 • 2101 Constitution Ave., N.W.
Washington, D.C. 20055
Phone: 1-800-624-6242 or 202-334-3313
<http://www.nap.edu>

Mauroni, Al. **Chemical Demilitarization: Public Policy Aspects**. Westport, CT: Praeger, 2003.

This study evaluates how the Army has carried out the chemical demilitarization plan over the last several decades from the public policy perspective. It specifically seeks to identify those policy issues that have caused the most public concern in the hopes that valuable lessons can be learned.

A selected bibliography and index are included.



CB-190159 • ISBN 0-275-97796X
Praeger Publishers
88 Post Road West
West Port, CT 06881
(203) 226-3571

Documents from the Web

Burgess, Stephen and Helen Purkitt. **The Rollback of South Africa's Chemical and Biological Warfare Program**. Maxwell Air Force Base, AL: U.S. Air Force Counterproliferation Center, Air War College, 2001.

<http://www.au.af.mil/au/awc/awcgate/cpc-pubs/southafrica.pdf>

"One response of the *apartheid* regime to changing threat perceptions outside and inside of South Africa was to develop a new and more sophisticated chemical and biological warfare (CBW) program, code-named "Project Coast," and to accelerate a nuclear weapons program. The CBW decision-making process was secretive and controlled by the military and enabled a very sophisticated program to be developed with little outside scrutiny. Military and police units used chemical and biological agents for counter-insurgency warfare, assassination, and execution of war prisoners.



As the regime felt increasingly threatened by opposition at home, top political leaders approved plans for research and development of exotic means to neutralize opponents, large-scale offensive uses of the program, and weaponization. However, the plans were not operationalized. The end of the external threat led to a decision to unilaterally dismantle the program, prior to a shift to majority rule. Lack of civilian control over military programs made the rollback difficult, rife with corruption, and left proliferation concerns in place.

Ultimately, the United States, Great Britain, and other countries pressured the South African government to ensure that the CBW program was dismantled and the former project manager, Dr. Wouter Basson, constrained..." (*Introduction*)

CB-190007
USAF Counterproliferation Center
Air War College
Maxwell Air Force Base, Alabama 36112

CALENDAR OF EVENTS

If you would like to have a Chemical and/or Biological Defense or Homeland Security course or event posted on the CBIAC Calendar of Events, submit the pertinent information via email to cbiac@battelle.org. Due to space limitations, the CBIAC will accept submissions on a first-come, first-served basis and reserves the right to reject submissions. For a more extensive list of events, visit our website at <http://www.cbic.apgea.army.mil/>.

October 15-17, 2003

AIPR 2003: Imagery and Data Fusion

Washington, DC

http://www.aipr-workshop.org/main_page2.html

October 15-17, 2003

Fall 2003 Biometrics Summit – Implementing the Practical Applications of Biometrics for the Future

Las Vegas, NV

<http://www.aliconferences.com/conferences.htm>

October 20, 2003

COURSE: Initial Procedures for Handling Chemical/Biological Incidents

Smyrna, GA

http://www.pe.gatech.edu/conted/servlet/edu.gatech.conted.course.ViewCourseDetails?COURSE_ID=108

October 20-22, 2003

BioSecurity 2003 Conference

Washington, DC

<http://www.biosecuritysummit.com>

October 20-22, 2003

8th Annual New Mexico Environmental Health Conference

Albuquerque, NM

www.nmehc.org

October 20-23, 2003

DUAL COURSE - Biological and Radionuclear (Live Presentation - not a broadcast)

Medical Management of Biological Casualties

By the US Army Medical Research Institute For Infectious Diseases (USAMRIID) and

Medical Effects of Ionizing Radiation

By the Armed Forces Radiobiology Research Institute (AFRRI)

Location: CA National Guard Joint Forces Training Base (JFTB), Los Alamitos, CA

Sponsored by: Rep. Rohrabacher, CA National Guard - JFTB, USAMRIID and AFRRI

Course Facilitators: Kathleen Hollingsworth, Fadi Essmaeel MD CEM

Both Courses are accredited for CE purposes

RSVP Kellee, at 714.960.6483 or 310.377.9493

Course Fee \$50 per person

October 20-23, 2003

National Military Sensing Symposium

Washington, DC

<http://www.iriacenter.org/msssked.nsf>

October 21-22, 2003

Regional Policy Forums 2002/2003: Homeland Defense

Los Angeles, CA

<http://www.brookings.edu/execed/open/RegionalForum.htm>

October 21-23, 2003

INFOTECH 2003

Dayton, OH

<http://www.afcea-infotech.org>

October 21-23, 2003

Federal Information Assurance Conference 2003 – “An Alliance for a More Secure Nation”

Adelphi, MD

<http://www.fbcinc.com/fiac/default.asp>

October 22-23, 2003

Federal Buildings Conference and Expo 2003

Washington, DC

<http://www.federalbuildings.com>

October 22-24, 2003

Worldwide Chemical Conference & Exhibition XX (#4300)

Fort Leonard Wood, MO

http://register.ndia.org/interview/register.ndia?PID=Brochure&SID=_OVG0RBNDV&MID=4300

October 22-26, 2003

NATO Advanced Research Workshop- Ecological Risks Associated with the Destruction of Chemical Weapons

Lüneburg, Germany

mgross@uni-lunenburg.de

<http://ostpartnerschaften.uni-lunenburg.de/nato/>

October 23-24, 2003

Sampling, On-Site and Sample Preparation Conference

Pittsburgh, PA

<http://members.aol.com/hnpacs/conferences/SamplingOnSiteAndSamplePrep11.htm>

October 23-24, 2003

BIOSILICO 2003

Stanford, CA

<http://www.bioedge.net/biosilico03/fr-index.html>

October 25-28, 2003

7th Annual Systems Engineering Conference

Dallas, TX

<http://www.ndia.org/events/brochure/5870/>

IN THE NEWS • *By Mary Frances Tracy*

New Initiatives

First Joint Program Executive Office For Chemical And Biological Defense Formed

U.S. Department of Defense News Release

No. 277-03

April 25, 2003

"The Department of Defense today announced the formation of the first ever Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). This DoD initiative will focus on the protection of soldiers, sailors, airmen, and Marines against the use of battlefield chemical and biological weapons. The JPEO will be led by Brig. Gen. Stephen V. Reeves and will be located in the National Capital Region."

http://www.defenselink.mil/news/Apr2003/b04252003_bt277-03.html

National Homeland Security Consortium, Web Site Established by Ohio State University

OSU Research News

May 2003

The National Academic Consortium for Homeland Security has been established with the primary role of the Consortium "to promote, support and enhance academic research, technology development, education and training, and service programs dealing with all aspects of international and homeland security, through collaboration and information-sharing among academic institutions, researchers and scholars."

<http://www.acs.ohio-state.edu/researchnews/archive/stewart.htm>
<http://www.osu.edu/homelandsecurity/NACHS/>

Institute for Soldier Nanotechnologies Opens

Curt Biberdorf

Army News Service

May 28, 2003

"The Institute for Soldier Nanotechnologies, a joint research collaboration between the Army and Massachusetts Institute of Technology, formally opened during a ceremony in Cambridge, Mass., May 22. Founded in March 2002 by a \$50 million grant from the Army, the institute's mission is to develop technologies for advancing soldier protection and survivability, officials said, by combining basic and applied research in nanoscience and nanotechnology."

http://www4.army.mil/ocpa/read.php?story_id_key=103

New DHS and USDA Partnership for Plum Island Animal Disease Center Boosts Nation's Agroterrorism Defense

U.S. Department of Homeland Security Press Release

June 2003

"The Department of Homeland Security (DHS) and the U.S. Department of Agriculture (USDA) today announced a partnership agreement to transfer management of the Plum Island Animal Disease Center."

<http://www.dhs.gov/dhspublic/display?content=936>

New Lab Assigned to Bioterror Fight - Richmond Facility Opens With Mandate to Back Up CDC in Case of Attack

Michael D. Shear

washingtonpost.com

June 10, 2003

"Virginia today became a key part of the nation's defense against bioterrorism and deadly epidemics, opening a \$60 million laboratory that state and federal officials said is rivaled

in sophistication only by the federal Centers for Disease Control and Prevention and a handful of military labs."

<http://www.washingtonpost.com/ac2/wp-dyn?pagename=article&node=&contentId=A36856-2003Jun9¬Found=true>

ECBC Demonstrates Novel Chemical Biological Regenerative Air Filtration System

ECBC News Release No. 03-23

July 29, 2003

"A new air filtration system promising improved protection for warfighters and civilians alike was unveiled by the U.S. Army Edgewood Chemical Biological Center (ECBC) on July 28, 2003. The system, the first of its kind designed to protect against biological and chemical agents as well as toxic industrial chemicals, uses regenerative filters that do not require renewal like conventional filters."

<http://www.ecbc.army.mil/pr/pr.htm>

Emergency Management Drills/Defense Preparation

Postal Service Readies Defense

Ann Thayer

Chemical & Engineering News

May 26, 2003

"The U.S. Postal Service has awarded an initial \$175 million contract to a team led by Northrop Grumman to make and install biohazard detection systems in mail-sorting facilities nationwide. At the heart of the system is a polymerase chain reaction (PCR)-based detector developed by Cepheid, a maker of instrumentation for DNA analysis."

<http://pubs.acs.org/cen/topstory/8121/8121notw5.html>

Coal-Mine Canaries on a Chip

Erik Baard

Wired News

June 13, 2003

"Hundreds of subway riders and stadium spectators may one day owe their lives to the death of a single cell. Engineers at the University of California at Berkeley have merged a living cell with an electrical circuit so that in a chemical attack the cell's death would trip an alarm."

<http://www.wired.com/news/technology/0,1282,59217,00.html>

FDA Approves Pediatric Doses of Atropen

FDA Talk Paper T03-45

June 20, 2003

"The Food and Drug Administration today approved new dosage forms of the Atropen (atropine autoinjector) for use in children and adolescents exposed to certain nerve agents or insecticides."

<http://www.fda.gov/bbs/topics/ANSWERS/2003/ANS01232.html>

Personal Decontamination Products Protect the Warfighter from Battlefield Health Hazards

Sylvie Ellen

Military Medical Technology

June 3, 2003

"...MMT looks at three types of products that offer varied levels of personal decontamination, including alcohol-based sanitizers, longer-lasting formulas that kill infectious germs on contact as well as work to prevent further infection, and also barrier creams that are used as a compliment to mission

Continued pg. 9

New CBIAC Info. Resources *cont.*

Smart, Jeffrey K., Preparer. **History of Decontamination.** Aberdeen Proving Ground, MD: U.S. Army Soldier and Biological Chemical Command, 2002.

<http://www.sbccom.apgea.army.mil/hooah/pubs/histdecon.pdf>

"The history of decontamination can be traced back to World War I when chemical warfare was first introduced on a large scale. Throughout the next 85 years, the U.S. Army has found better ways to accomplish decontamination on the battlefield. For the future, the next generation of decontamination capabilities will provide revolutionary advancements.

This brief history covers some of the highlights of the long history of decontamination research and developments." (*Introduction by Colonel Christopher J. Parker, PM NBC Defense Systems*)

CB-190244

Historical Research and Response Team
Aberdeen Proving Ground, MD 21010-5424

NIOSH. **Guidance for Filtration and Air-Cleaning Systems to Protect Building Environments from Airborne Chemical, Biological, or Radiological Attacks.** Cincinnati, OH: NIOSH, CDC and DHHS, 2003.

<http://www.cdc.gov/niosh/docs/2003-136/pdfs/2003-136.pdf>

"This publication is the second NIOSH Guidance document aimed at protecting workplaces from these new threats. It provides detailed, comprehensive information on selecting and using filtration and air-cleaning systems in an efficient and cost-effective manner. Filtration systems can play a major role in protecting both buildings and their occupants." (*Forward*)



CB-190245

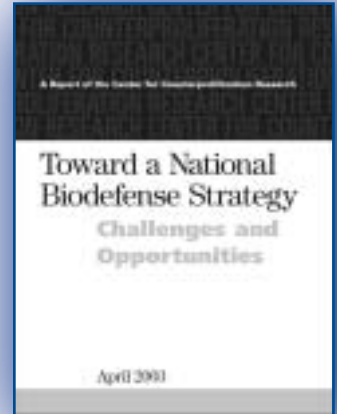
NIOSH Publications Dissemination
4676 Columbia Parkway
Cincinnati, OH 45226-1998
Phone: (800) 356-4674 • Fax: (513) 533-8573

Center for Counterproliferation Research. **Toward a National Biodefense Strategy--Challenges and Opportunities.** Washington, D.C.: Center for Counterproliferation Research, National Defense University, 2003.

<http://www.ndu.edu/centercounter/CCR%202003.pdf>

"The threat posed by biological weapons, while not new, is evolving and does present a series of political, military, technological and psychological national security challenges. While some military and civilian organizations have substantial capabilities in place to help counter the BW threat, others are relative newcomers and have only recently begun to consider their roles in the national biodefense effort... This

monograph assesses the nature of the biological weapons threat and analyzes its broader implications for national security. It articulates the imperative for developing a cogent, robust, and integrated national biodefense strategy and highlights an important set of issues facing the policy, operational, intelligence, and public health communities. Finally, it offers a series of recommendations to understand the changing BW threat and for further developing appropriate responses." (*Introduction*)



CB-190246

Center for Counterproliferation Studies
National Defense University
Washington, D.C. 20402
Phone: (202) 478-3416 • Fax: (202) 238-9603

United States General Accounting Office. **Bioterrorism--Preparedness Varied Across State and Local Jurisdictions.**

April 2003. Washington, D.C.: GAO, 2003.

<http://www.gao.gov>. Search the "Full Text Search" engine for "Bioterrorism."

CB-190247

U.S. General Accounting Office
P.O. Box 37050
Washington, D.C. 20013
Tel: (202) 512-6000 • Fax: (202) 258-4066

United States General Accounting Office. **Gulf War Illnesses: Preliminary Assessment of DOD Plume Modeling for U.S. Troops' Exposure to Chemical Agents.** June 2003.

Washington, D.C.: GAO, 2003. <http://www.gao.gov>. Search the "Full Text Search" engine for "Gulf War Illness."

CB-190248

U.S. General Accounting Office
P.O. Box 37050 • Washington, D.C. 20013
Tel: (202) 512-6000 • Fax: (202) 258-4066

FILE CABINETS AT MAXIMUM CAPACITY RETIRING NEW JOB ASSIGNMENT

If you answered yes to any of the above, please consider donating CB Defense-related documents from your personal or organizational collection to the CBIAC. If you have documents that are not currently in the CBIAC Database, your records would be a welcome addition to the CBIAC collection and a valuable resource for the CB Defense and Homeland Security communities that it serves.

For further information, send an email to cbiac@battelle.org.

In the News *cont.*

oriented protective posture (MOPP) gear to avoid more serious infection."
<http://www.mmt-kmi.com/articles.cfm?DocID=130>

Mayor Michael R. Bloomberg and Office of Emergency Management Holds Operation Winter Sun Multi-agency Field Drill

NYC.gov PR- 131-03

May 18, 2003

"Mayor Michael R. Bloomberg today joined Commissioner John Odermatt of the New York City Office of Emergency Management (OEM) for a major multi-agency field exercise designed to test New York City response to a weapons of mass destruction attack."

http://nyc.gov/portal/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A/nyc.gov/html/om/html/2003a/pr131-03.html&cc=unused1978&rc=1194&ndi=1

Research Highlights

Targeted Antioxidants Show Promise as 'Magic Bullets' for the Treatment of Chemical, Biological and Radiological Agents

Rob Fanney

Janes.com

March 11, 2003

"Current studies conducted by Amoax – a consortium of research institutes and universities – are promising to produce a treatment for a range of chemical, biological and radiological agents. Research into the response of animal and cell models to treatments targeting the effects of mustard gas shows promise for treating not only the effects of mustard but also the effects of a wide range of other agents."
http://www.janes.com/security/international_security/news/jcbw/jcbw030311_1_n.shtml

Inactivation of Bacillus anthracis Spores

Ellen A. Spotts Whitney, Mark E. Beatty, Thomas H. Taylor, Jr., Robbin Weyant, Jeremy Sobel, Matthew J. Arduino, and David A. Ashford

Emerging Infectious Diseases

June 2003

"After the intentional release of Bacillus anthracis through the U.S. Postal Service in the fall of 2001, many environments were contaminated with B. anthracis spores, and frequent inquiries were made regarding the science of destroying these spores. We conducted a survey of the literature that had potential application to the inactivation of B. anthracis spores. This article provides a tabular summary of the results."

<http://www.cdc.gov/ncidod/EID/vol9no6/02-0377.htm>

Health Care: Biosensors

PC Magazine

July 1, 2003

In an issue devoted to "Hot Technologies to Watch," the section dedicated to Health Care technologies provides a brief overview of some of the latest research and development efforts in the area of biosensors.

<http://www.pcmag.com/article2/0,4149,1132779,00.asp>

A B Cell-Based Sensor for Rapid Identification of Pathogens

Todd H. Rider, Martha S. Petrovick, Frances E. Nargi, James D. Harper, Eric D. Schwoebel, Richard H. Mathews, David J. Blanchard, Laura T. Bortolin, Albert M. Young, Jianzhu Chen, and Mark A. Hollis

Science Magazine

July 11, 2003

Vol. 301; pp. 213-215

This article reports on the use of genetically engineered cells in a pathogen identification sensor.

<http://www.sciencemag.org/cgi/reprint/301/5630/213>

Remember to check CBD Current Headlines on the CBIAC website!

“The IAB: Agencies” *cont.*

Federal Coordinating Committee (FCC)

The FCC is the coordination committee that provides the interface between the IAB and sponsoring federal government agencies. The FCC consists of the federal officials from contributing agencies and departments. The FCC:

- Coordinates and leverages ongoing federal research, development, testing and evaluation (RDT&E) efforts to meet the responder requirements as identified by the IAB,
- Solicits and coordinates mission support for the IAB, which includes activities such as organizational staff support, contributory funding, project sponsors, meetings, technical support, the IAB business cycle, and resulting products,
- Meets with the IAB Chair on a regular basis to review SubGroup recommendations and actions,
- Meets to coordinate federal requirements for action by the IAB,
- Attends general membership meetings, and
- Reviews and approves the annual operating budget for the IAB, and maintains a support staff to facilitate the operation of the IAB.

SubGroups/Committees

The IAB has four equipment SubGroups consisting of subject matter experts. Each SubGroup is responsible for maintaining its subsection of the Standardized Equipment List (SEL).

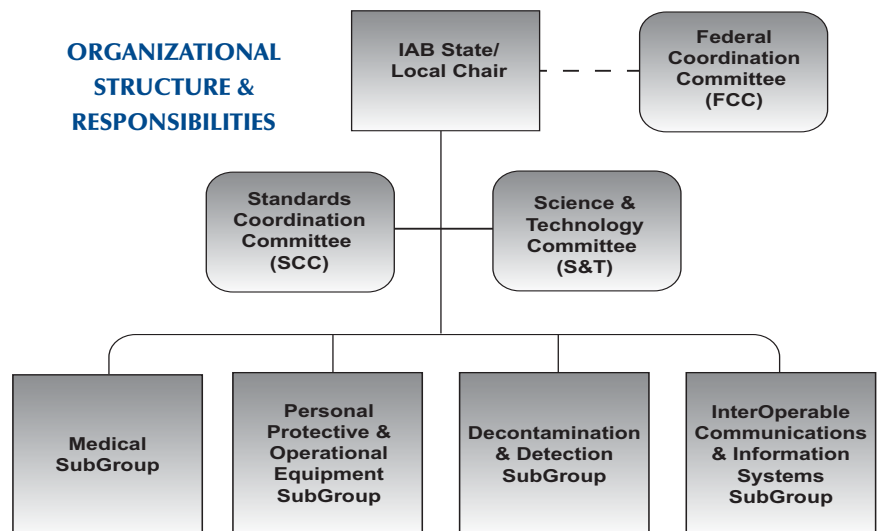
- **Medical** - Addressing casualty treatment for victims of a conventional or nonconventional weapons of mass destruction (WMD) attack and also preventive measures to avert victimization.
- **Personal Protective and Operational Equipment (PP&OE)** - Addressing individual equipment, support systems, and area protection for WMD response.
- **Detection and Decontamination (D&D)** - Focusing on intrusive and non-intrusive detection; monitoring, sampling and analysis of suspected toxins; and methods to mitigate or dissipate a contamination.
- **InterOperable Communications and Information Systems (ICIS)** - Addressing communications, information management, technical information support, and public awareness issues.

The IAB has two additional committees consisting of subject matter experts and the Co-Chairs from each of the SubGroups:

- **Science and Technology (S&T)** - Ensuring that WMD response equipment and technology is integrated into existing standards boards and regulatory bodies.

- **Standards Coordination Committee (SCC)** - Focusing on advanced concepts entering development and newly emerging technologies that might be applied to crisis and consequence management.

Each SubGroup/Committee elects two Co-Chairs, one from the local and state ranks and a second from federal or private ranks. The Co-Chairs are elected for two-year terms with the elections for the local/state Co-Chair and the federal/private Co-Chairs being conducted on alternating years. Co-Chairs may be re-elected when their term has ended; there are no “term limits” for the Co-Chairs.



The duties of SubGroup/Committee Co-Chairs are:

- Direct the efforts to accomplish the scope of IAB activities as identified in this charter,
- Provide liaison with the IAB Chair,
- Provide meeting minutes, status of ongoing projects, and written reports of recommendations and requirements from the SubGroup/Committee annually or as required,
- Serve as a member on the SCC and S&T Committee, and
- Provide membership recommendations. It is the responsibility of the Co-Chairs to review membership participation annually and to ensure SubGroup membership represents the interest across the entire responder community. (Fire, Hazmat, Law Enforcement, EMS, Public Health, etc.).

Membership

SubGroup/Committee members participate in committee activities and lend their expertise and support to the IAB Mission.

- SubGroup/Committee membership will be limited to twenty voting members.
- SubGroup membership may be augmented with additional subject matter experts, as non-voting members, for specific projects, or with members of other SubGroups in a non-voting status.

“The IAB: Agencies” *cont.*

- Any IAB member can make a nomination for membership to the SubGroup/Committee Co-Chairs.
- All IAB candidates must attend 2 consecutive board meetings to be considered for IAB membership.
- Members are appointed by a majority vote of the two SubGroup/Committee Co-Chairs and the IAB Chair.
- Individuals may serve as voting members in only one SubGroup, however they may participate in a non-voting status in other SubGroups.

Executive Summary

The InterAgency Board (IAB) continues to follow its guiding principles by annually publishing a standardized equipment list (SEL) and promoting interoperability among civil and military WMD response units at local, state and federal levels. The IAB adopted the first new standard in the CBRNE equipment standards suite: NIOSH Chemical, Biological, Radiological, and Nuclear (CBRN) Standard for Open-Circuit Self-Contained Breathing Apparatus (SCBA).

The IAB has developed a standards priority list that is researched, tracked and reported by the IAB's Federal Coordinating Committee (FCC) and Standards Coordination Committee (SCC). The IAB is emphasizing its efforts on the development of standards with DHS and other standards development agencies. The IAB serves as an advisory board to all federal agencies on first responder initiatives.

The IAB understands the necessity for close coordination among the local community and the federal government to improve protection and response. The IAB invites the continued involvement of the response community.

The InterAgency Board, though composed of a broad spectrum of response disciplines, has one goal – to embrace the safety of our Nation's responders, who take the front line in our homeland defense.

A listing of member organizations, profiles of the agency chairs and co-chairs, its charter, and the **2002 Standardized Equipment List (SEL)** can be found in the **IAB 2002 Annual Report** available on the IAB website at www.iab.gov.



“IVDS” *cont.*

(NIST) has calibrated the counting feature of the IVDS to verify its accuracy and efficiency.

The IVDS has been patented and licensed to Virus Detection Systems, a Maryland company, for commercialization and production. Virus Detection Systems holds an exclusive license for production of the IVDS.

The future of the IVDS leads where most technologies do: smaller, lighter, faster. Technology advancements in miniaturization will enable a smaller footprint for the IVDS as well as increased integration into other systems, such as wide-area air samplers. The potential is there for the IVDS to become remote-automated, more sensitive, and more mass producible.

By taking a novel approach to a difficult problem, the IVDS embodies an exciting new direction for virology and viral detectors.

*Note: This article is adapted, with permission, from the original article, “Integrated Virus Detection System” by Tim Lavery, which appeared in the Edgewood Chemical Biological Center’s (ECBC’s) Summer 2003 **CB Quarterly** (issue 33). For further information, contact the **CB Quarterly** copy editor at (410) 436-5383 or DSN 584-5383, or visit the ECBC website at: <http://edgewood.sbccom.army.mil/about/contact.htm>.*

Let our readers know about your program or project!

The **CBIAC Newsletter** is a forum for scientific, operational, and technical research and development that is relevant to the CB Defense and Homeland Security communities. Please consider sending a brief article on your program, project, agency or activity for the **CBIAC Newsletter**. Articles published elsewhere can be submitted, with permission to edit for our audience. Acknowledgement of the original publication will be included in the article. If you are a public affairs office, please add us to your mailing list for press releases and pertinent news. Articles should be approximately 1,000 words with graphics. For additional information about deadlines, see page 2.

All articles are subject to the review and approval of the CBIAC management and COTR. Send inquiries or submissions to cbiac@battelle.org.

New CBIAC Products



Best Practices and Guidelines for Mass Personnel Decontamination

Distribution Limitation: *U.S. Federal Government Agencies, their Approved Contractors and State and Local Government Agencies; Unclassified.*

SOAR-03-10

June 2003

\$20.00

This product provides evidence- and consensus-based guidelines for responding to and decontaminating victims in mass casualty incidents involving chemical or biological materials. It was developed through Technical Support Working Group and U.S. Public Health Service in collaboration with Australia, Canada, and the United Kingdom, and provides general principles and methods for identifying and responding to chemical or biological mass casualty incidents. It includes sections on general principles of decontamination, chemical decontamination and setups, managing incident sites and decontaminating victims in a biological incident, along with annexes with supporting information, including detailed information on chemical and biological agents, common decontaminants, hazard modeling and management, and psychological and public relations considerations for use by federal, state and local emergency response personnel as both a training tool and as an on-scene quick reference.

WMD Reference CDs

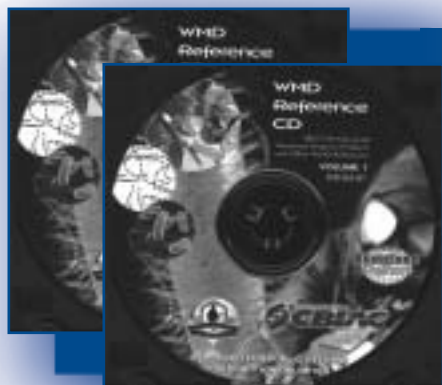
Distribution Limitation: *Approved for Public Release – Distribution Unlimited*

CR-03-07

July 2003

\$25.00

This 2 CD-ROM set was developed in cooperation with the Homeland Defense Business Unit of the U.S. Army Soldier and Biological Chemical Command (SBCCOM). The set offers a searchable collection of documents that highlights different aspects of Weapons of Mass Destruction events (Homeland Defense Business Unit, biological weapons, chemical weapons, emergency management and planning, preventive measures, decontamination, and treatment, homeland defense and terrorism, references) and features SBCCOM Improved Response Program (IRP) products.



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